

APPLICATION FOR PATENT

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Title: Breathable Ventilated Shoe Pad

5 This application claims priority from US Provisional Patent Application No. 60/727,399 filed 18 October 2005.

FIELD AND BACKGROUND OF THE INVENTION

The present invention relates to shoe insert pads and, in particular, it concerns a breathable ventilated shoe pad.

10 In order to maintain the cleanness of the interior of a shoe and provide better comfort, the interior of the shoes often requires the use of shoe pad. At the moment, the majority of the shoe pads seen on the market only possess one feature, cushioned padding. The shoe pads of the prior art do not effectively ventilate or breath. There are some shoe pads that perform a certain level of ventilation. However, these shoe pads possess some structural complications,
15 high manufacturing cost and are easy to break.

There is therefore a need for a breathable ventilated shoe pad.

SUMMARY OF THE INVENTION

The present invention is a breathable ventilated shoe pad.

20 According to the teachings of the present invention there is provided, a breathable, ventilated one-piece shoe pad comprising: a) a shoe pad body having multiple ventilation holes; and b) an air bag attached to the bottom

surface of the shoe pad body, the air bag having corresponding ventilation holes aligned with the multiple ventilation holes of the shoe pad body.

According to a further teaching of the present invention, the shoe pad body includes a compartment that contains the airbag.

5 According to a further teaching of the present invention, there is also provided foam padding deployed inside of the air bag.

According to a further teaching of the present invention, the air bag extends from a heel portion of the shoe pad body for a distance of half the length of the shoe pad body.

10 According to a further teaching of the present invention, a heel thickness of the air bag is thicker than the rest of other parts.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is herein described, by way of example only, with reference to the accompanying drawings, wherein:

15 FIG. 1 is a top view of a shoe pad body constructed and operative according to the teachings of the present invention;

FIG. 2 is a bottom view of the shoe pad body of FIG. 1;

FIG. 3 is a top view of an air bag constructed and operative according to the teachings of the present invention;

20 FIG. 4 is a bottom view of the air bag of FIG. 3;

FIG. 5 is a structural bottom view of the breathable ventilated shoe pad of the present invention with shoe pad body and air bag combined.

FIG. 6 is a cross-sectional view of FIG. 5 along line A-A.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is a breathable ventilated shoe pad.

The principles and operation of a breathable ventilated shoe pad
5 according to the present invention may be better understood with reference to the drawings and the accompanying description.

By way of introduction, the practical new design of the present invention provides a type of breathable, ventilated one-piece shoe pad having a main body that includes many ventilation openings. On the bottom surface of
10 the main body an air bag is attached. The surface of the interface at which the air bag attaches to the main body is configured with many ventilation openings that correspond to the openings at the main body. The structure of this practical new design is very simple, it is cost-efficient in manufacturing and the product itself is durable. When utilized inside the shoe, the air bag creates an air
15 convection flow and exhausts the foul stale air out of the shoe during each step of the user. This helps to keep the foot dry.

The purpose of the present invention is to aim at the deficiency of the current technique and thereby provide some kind of simple structured and easy to use ventilating shoe pad.

20 In order to fulfill the above-described purpose, the present invention provides a shoe pad body the top of which includes multiple ventilation holes. The bottom of the shoe pad body attaches to the top surface of an air bag.

There are multiple corresponding openings in between the shoe pad body and the top surface of the air bag where the air bag contacts the shoe pad body. When the shoe pad body and the air bag are being attached, the corresponding ventilation holes are aligned so as to provide airflow to and from the air bag
5 through the ventilation holes.

The described shoe pad body is configured with a compartment in the bottom surface. The air bag is attached to the pad body inside the compartment.

The described air bag may be filled with substantially any sponge or other soft cushion material.

10 Preferably, the described air bag extends from the heel of the shoe pad body for a distance of about half the length of the shoe pad body. It will be understood that an embodiment in which the air bag extends further and even up to the full length of the shoe pad is within the scope of the present invention. Further, the air bag may be configured so as to be thicker at the heel end than
15 the rest of length of the air bag.

Some of the effective benefits of the present invention are that the outstanding simple structure of the ventilated shoe pad of the present invention lowers the manufacturing cost and ventilated shoe pad of the present invention is not as easily damaged as those of the prior art.

20 When it is inserted into the shoe, the presence of the air bag during walking causes the internal air to ventilate. Therefore, it generates a convection effect (air flow) upon each step a user makes. In doing so, it exhausts the filthy or stale air out of the shoe and keeps the foot dry.

Referring now to the drawings, Figures 1-6 relate to a preferred embodiment of a breathable ventilating shoe pad of the present invention that includes a shoe pad body 10 and an air bag 20. Due to the perspiration of the foot that forms near the middle area of the sole of the foot, the shoe pad body 10 includes multiple ventilating holes 101 on the middle area of the length of the pad body 10. There is a compartment 11 configured in the bottom surface of the shoe pad body 10 and an air bag 20 attaches inside of the compartment 11 with glue (or substantially any other suitable attachment arrangement) to securely connect the air bag 20 to the shoe pad body 10.

10 Preferably, a sponge 21, which is soft and stores more air, is deployed inside the air bag 20 so as to substantially fill it. It should be noted that the air bag may be filled with substantially any suitable material that provides the required cushioning and air exhausting features needed for the proper functioning of the breathable ventilating shoe pad of the present invention.

15 Further, the material inside the air bag may be deployed by substantially any method such as, but not limited to being injected into the air bag.

 The portion of air bag 20 that is the contacting interface surface between the air bag 20 and shoe pad body 10 includes multiple ventilating holes 201 corresponding to, and aligned with, the ventilation holes 101 on the shoe pad body 10. During process of walking, with each step the user's foot presses against the air bag 20 such that the air inside of the air bag 20 interacts with the air entering the shoe.

Due to the pressure concentrated on the heel part of the shoe pad during the process of taking a step, the length of the air bag 20 could be designed to extend from the shoe pad body 10 to the middle part of the shoe pad body 10. Further, the thickness of the air bag 20 at the heel 22 portion is greater than the rest of length of the air bag 20. It provides the shoe pad with better anti-shock effects and higher volume of airflow.

Once the breathable, ventilating shoe pad of the present invention is placed inside of a shoe, air is forced from the air bag 20 during the process of walking by the user's foot pressing against shoe pad. When the user lifts his/her foot up, the air bag 20 changes to a negative pressure condition. The air outside of shoe pad is drawn into the air bag 20. Accordingly, substantially every full step a user makes will generate airflow out of and into the air bag, and therefore the shoe, so that the foot can be maintained in a dry and comfortable condition.

Additionally, it should be noted that in order to ensure that air from outside of the shoe interacts and flows with the air from the inside of the air bag 20, some exhaust pipes or passages (not shown), may be installed at an appropriate area of the shoe. Further, to avoid the re-entry of stale air that is being exhausted from inside the, the exhaust pipes may be configured with a one-way valve (not shown).

It will be appreciated that the above descriptions are intended only to serve as examples and that many other embodiments are possible within the spirit and the scope of the present invention.